



DLPT05

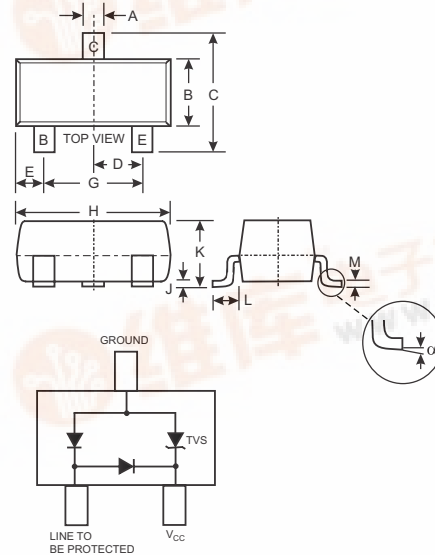
SURFACE MOUNT DATALINE PROTECTION DEVICE

Features

- 300 Watts Peak Pulse Power ($t_p = 8 \times 20 \mu s$)
- Transient Protection for data line to IEC61000-4-2 level 4 (ESD), 8kV HBM, and IEC 61000-4-4 (EFT)
- Low Leakage Current
- Surface Mount Package Ideally Suited for Automatic Insertion
- Lead Free/RoHS Compliant (Note 4)

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Terminal Connections: See Diagram
- Part Marking (See Page 3): A01
- Ordering & Date Code Information: Page 3
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Maximum Ratings, Total Device @ $T_A = 25^\circ C$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8 \times 20 \mu s$)	P_{PK}	300	W
Peak Forward Voltage ($I_{PP} = 1A$, $t_p = 8 \times 20 \mu s$)	V_{FP}	2.1	V
Diode Peak Repetitive Reverse Voltage	V_{RRM}	75	V
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ C/W$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

Electrical Characteristics, TVS Element @ $T_A = 25^\circ C$ unless otherwise specified

Reverse Standoff Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Reverse Leakage @ V_{RWM}	Max. Clamping Voltage @ $I_{PP} = 1A$ (Note 3)	Max. Peak Pulse Current (Note 2)	Typical Total Capacitance (Note 1)
V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	I_R (μA)	V_C (V)	(A)	(pF)
5	6	—	1.0	20	9.8	17	1.9

- Notes:
1. $V_R = 0V$, $f = 1MHz$ from line to be protected to ground pin.
 2. $t_p = 8 \times 20 \mu s$.
 3. Clamping voltage values are based on an $8 \times 20 \mu s$ peak pulse current (I_{PP}) waveform.
 4. No purposefully added lead.

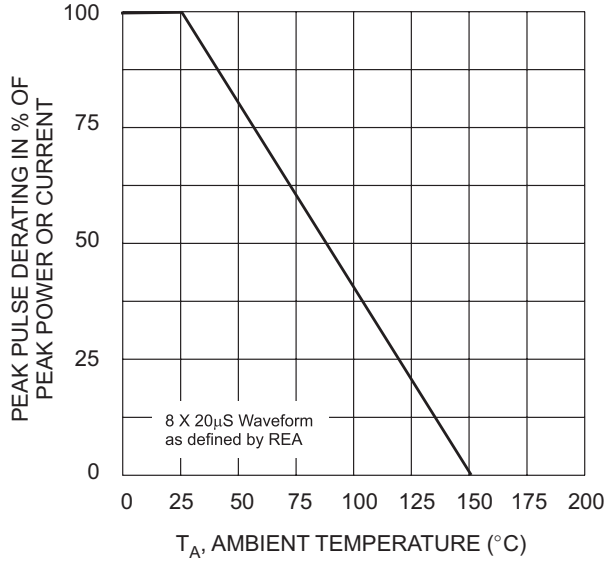


Fig. 1 Pulse Derating Curve

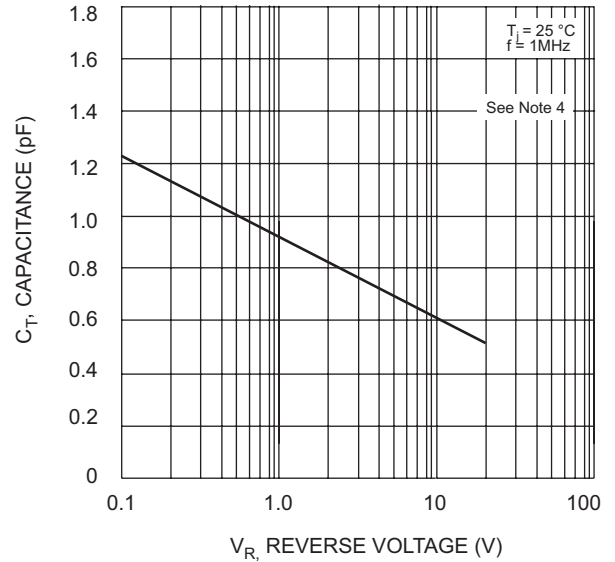


Fig. 2 Typical Total Capacitance vs Reverse Voltage

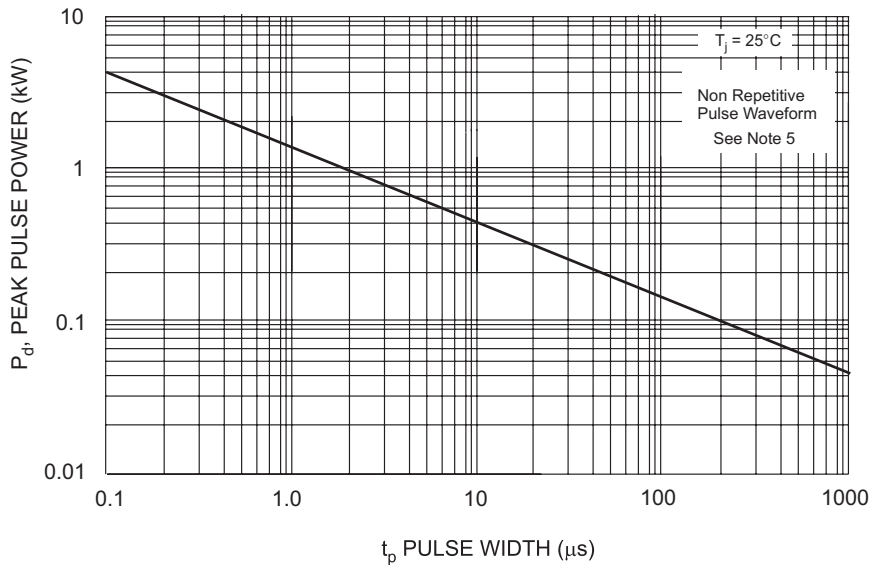


Fig. 3 Pulse Rating Curve

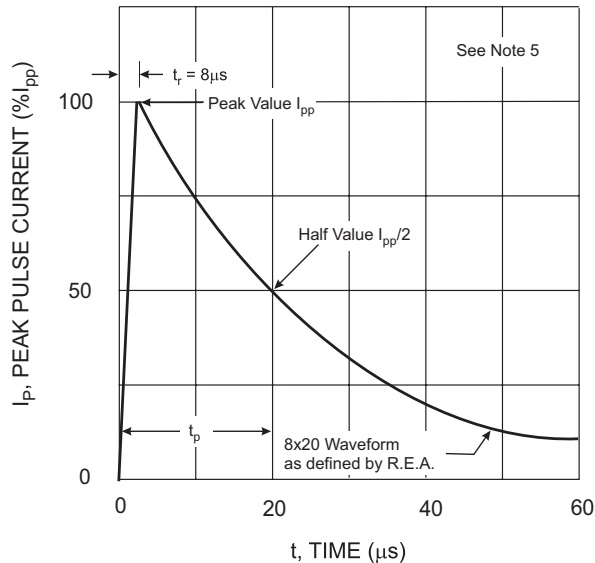


Fig. 4 Pulse Waveform

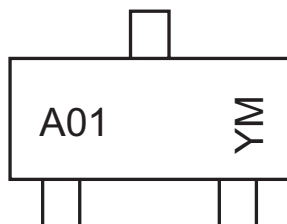
- Notes:
5. Measured from line to be protected to ground pin.
 6. Curves apply to TVS element of device.

Ordering Information (Note 7)

Device	Packaging	Shipping
DLPT05-7-F	SOT-23	3000/Tape & Reel

Notes: 7. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



A01 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	J	K	L	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Typical Application Schematics

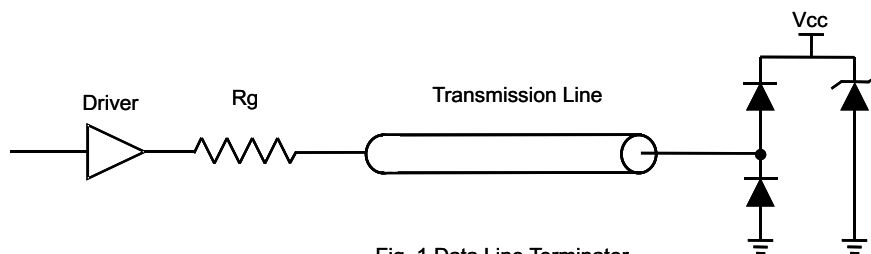


Fig. 1 Data Line Terminator

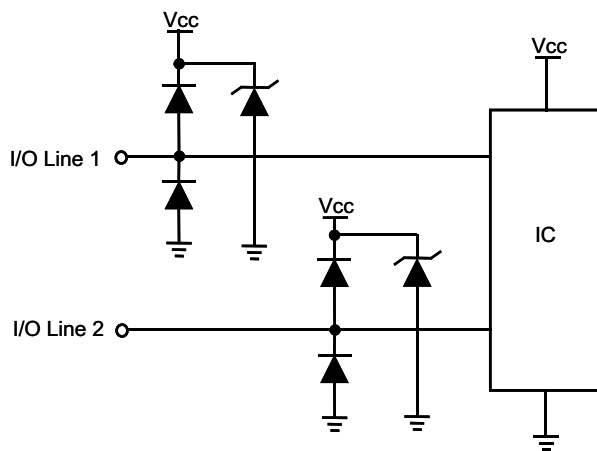


Fig. 2 Data Line Protection



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